

IN THE CLAIMS:

1. (Cancelled)

2. (Cancelled)

3. (Cancelled)

4. (Currently Amended) A thin film transistor according  
to claim 3, wherein comprising:

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a polycrystalline silicon semiconductor layer having  
therein a channel region, a source region, and a  
drain region, the source region and the drain region  
located on either side of the channel region, the  
drain region including a lightly doped drain (LDD)  
region; and

wherein the relationship of expression (2)

$$\underline{(R+30) \cdot W < 1 \times 10^3} \quad (2)$$

is satisfied, where R (k $\Omega$ / $\square$ ) is the sheet resistance  
of the LDD region and W ( $\mu$ m) is the channel width of  
the channel region, the channel width W of the  
channel region is being 2  $\mu$ m or less.

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5. (Cancelled)

6. (Currently Amended) A thin film transistor according to claim 4, wherein the sheet resistance of the ~~drain~~LDD region in the range of from 20 k $\Omega$ /□ to 100 k $\Omega$ /□.

7. (Cancelled)

8. (Currently Amended) A thin film transistor comprising a polycrystalline silicon semiconductor layer having ~~formed~~ therein a channel region, a source region, a drain region, and a low concentration impurity region having an impurity concentration less than that of the source region and the drain region, the source region and the drain region being ~~disposed~~located on either side of the channel region and the low concentration impurity region being ~~formed~~located in at least one of a region between the source region and the channel region and a region between the drain region and the channel region, the thin film transistor wherein:

the relationship of expression (3)

$$\Delta L > (W \cdot V_{tc}) / 36 \quad (3)$$

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is satisfied, where  $\Delta L$  ( $\mu\text{m}$ ) is the length of the low concentration impurity region,  $V_{lc}$  (V) is the source-drain voltage, and  $W$  ( $\mu\text{m}$ ) is the channel width of the channel region, the channel width  $W$  ( $\mu\text{m}$ ) of the channel region being 2  $\mu\text{m}$  or less.

9. (Currently Amended) A thin film transistor according to claim 8, ~~wherein~~ comprising a polycrystalline silicon semiconductor layer having therein a channel region, a source region, a drain region, and a low concentration impurity region having an impurity concentration less than that of the source region and the drain region, the source region and the drain region being located on either side of the channel region and the low concentration impurity region being located in at least one of the region between the source region and the channel region and a region between the drain region and the channel region, the thin film transistor wherein:

the relationship of expression (4)

$$\Delta L < 1.5 \cdot (W/L) \quad (4)$$

is satisfied, where  $\Delta L$  ( $\mu\text{m}$ ) is the length of the low concentration impurity region,  $W$  ( $\mu\text{m}$ ) is the channel width of the channel region, and  $L$  ( $\mu\text{m}$ ) is the

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channel length of the channel region, the channel width W ( $\mu\text{m}$ ) of the channel region being 2  $\mu\text{m}$  or less.

94 10. (Currently Amended) A thin film transistor according to claim 9, wherein comprising a polycrystalline silicon semiconductor layer having therein a channel region, a source region, a drain region, and a low concentration impurity region having an impurity concentration less than that of the source region and the drain region, the source region and the drain region being located on either side of the channel region and the low concentration impurity region being located in at least one of the region between the source region and the channel region and a region between the drain region and the channel region, the thin film transistor wherein:

the relationship of expression (20)

$$(W-V_{lc})/36 < \Delta L < 1.5 \cdot (W/L) \quad (20)$$

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is satisfied, wherein  $\Delta L$  ( $\mu\text{m}$ ) is the length of the  
low concentration impurity region,  $V_{lc}$  (V) is the  
source-drain voltage,  $W$  ( $\mu\text{m}$ ) is the channel length  
of the channel region, the channel width  $W$  ( $\mu\text{m}$ ) of  
the channel region is being 2  $\mu\text{m}$  or less.

94 11. (Currently Amended) A thin film transistor ~~according~~  
~~to claim 9~~ comprising a polycrystalline silicon semiconductor  
layer having therein a channel region, a source region, a  
drain region, and a low concentration impurity region having  
an impurity concentration less than that of the source region  
and the drain region, the source region and the drain region  
being located on either side of the channel region and the low  
concentration impurity region being located in at least one of  
a region between the source region and the channel region and  
a region between the drain region and the channel region, the  
thin film transistor wherein:

the relationship of expression (3)

$$\Delta L > (W \cdot V_{lc}) / 36 \quad (3)$$

is satisfied, where  $\Delta L$  ( $\mu\text{m}$ ) is the length of the low  
concentration impurity region,  $V_{lc}$  (V) is the

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source-drain voltage, and W ( $\mu\text{m}$ ) is the channel  
width of the channel region, the channel width W  
( $\mu\text{m}$ ) of the channel region being 2  $\mu\text{m}$  or less,  
wherein the sheet resistance of the low  
concentration impurity region is in the range of  
from 20  $\text{k}\Omega/\square$  to 100  $\text{k}\Omega/\square$ .

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12. (Cancelled)

13. (Original) A thin film transistor according to claim  
11, wherein the low concentration impurity region is formed  
only in the region between the drain region and the channel  
region.

14. (Cancelled)

15. (Currently Amended) A liquid crystal display device  
~~according to claim 14 comprising:~~

a liquid crystal panel portion comprising thin film  
transistor switching elements, each of the thin film  
transistors having a polycrystalline silicon  
semiconductor layer having therein a channel region,

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a source region, and a drain region, the source region and the drain region located on either side of the channel region, the drain region having located therein a lightly doped drain (LDD) region;  
and

a backlight portion for supplying light from a rear surface side of the liquid crystal panel portion;

wherein the relationship of expression (6)

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$$\frac{(R+30) \cdot B \cdot W}{1} < 1 \times 10^6 \quad (6)$$

is satisfied, where R ( $k\Omega/\square$ ) is the sheet resistance of the drain region, B ( $cd/m^2$ ) is the luminance of the backlight portion, and W ( $\mu m$ ) is the channel width of the channel region, the channel width W being 2  $\mu m$  or less.

16. (Cancelled)

17. (Currently Amended) An EL display device ~~according to claim 16,~~ comprising a light-emitting layer and a counter electrode thereon, the light-emitting layer being on a pixel

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electrode upper layer on a substrate having thin film transistors, each of the thin film transistors comprising:

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a polycrystalline silicon semiconductor layer having therein a channel region, a source region, and a drain region, the source region and the drain region located on either side of the channel region, the drain region having located therein a lightly doped drain (LDD) region; and

wherein the relationship of the expression (6)

$$\underline{(R+30) \cdot B \cdot W < 1 \times 10^6} \quad (6)$$

is satisfied, where R ( $k\Omega/\square$ ) is the sheet resistance of the ~~drain~~ LDD region, B ( $cd/m^2$ ) is the light intensity of light applied to the channel region, and W ( $\mu m$ ) is the channel width of the channel region, the channel width W being 2  $\mu m$  or less.

18. (Cancelled)

19. (Cancelled)

20. (Cancelled)

ay 21. (New) A thin film transistor comprising a polycrystalline silicon semiconductor layer having therein a channel region, a source region, a drain region, and a low concentration impurity region having an impurity concentration less than that of the source region and the drain region, the source region and the drain region being located on either side of the channel region and the low concentration impurity region being located in at least one of the region between the source region and the channel region and a region between the drain region and the channel region, the thin film transistor wherein:

the relationship of expression (4)

$$\Delta L < 1.5 \cdot (W/L) \quad (4)$$

is satisfied, where  $\Delta L$  ( $\mu\text{m}$ ) is the length of the low concentration impurity region,  $W$  ( $\mu\text{m}$ ) is the channel width of the channel region, and  $L$  ( $\mu\text{m}$ ) is the channel length of the channel region, the channel width  $W$  ( $\mu\text{m}$ ) of the channel region being 2  $\mu\text{m}$  or less, wherein the sheet resistance of the low concentration impurity region is in the range of from 20  $\text{k}\Omega/\square$  to 100  $\text{k}\Omega/\square$ .

22. (New) A thin film transistor comprising a polycrystalline silicon semiconductor layer having therein a channel region, a source region, a drain region, and a low concentration impurity region having an impurity concentration less than that of the source region and the drain region, the source region and the drain region being located on either side of the channel region and the low concentration impurity region being located in at least one of the region between the source region and the channel region and a region between the drain region and the channel region, the thin film transistor wherein:

the relationship of expression (20)

$$(W-V_{lc})/36 < \Delta L < 1.5 \cdot (W/L) \quad (20)$$

is satisfied, wherein  $\Delta L$  ( $\mu\text{m}$ ) is the length of the low concentration impurity region,  $V_{lc}$  (V) is the source-drain voltage,  $W$  ( $\mu\text{m}$ ) is the channel length of the channel region, the channel width  $W$  ( $\mu\text{m}$ ) of the channel region being 2  $\mu\text{m}$  or less, wherein the sheet resistance of the low concentration impurity region is in the range of from 20  $\text{k}\Omega/\square$  to 100  $\text{k}\Omega/\square$ .

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